

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

The Examiner rejected claims 1, 4, 5, 8, and 9 under 35 U.S.C. 103(a) as being unpatentable over JP 2002-302026 in view of JP 2000-006759, and in further view of Midorikawa, U.S. Pat. No. 6,332,629. The Examiner's rejection is traversed for the following reason.

Claim 1 has been amended to further differentiate the present invention over the cited prior art. Specifically, claim 1 has been amended to further define the function of the correlation calculating unit. Support for this amendment can be found, for example, on page 18, lines 9-20 and page 22, lines 16-24.

Accordingly, in regards to claim 1, Applicant discloses a travel safety device for a vehicle that includes an object detecting unit, which detects an object traveling in the same direction as the vehicle, a correlation calculating unit, which calculates a correlation relating to the distance between the vehicle and the object based on the detection result of the object detecting unit, a safety unit, and a safety device operation control unit. The safety unit device includes an automatic brake unit, which automatically decelerates the vehicle, and a seatbelt device, which automatically tightens and releases the seatbelt. The safety device operation control unit determines the possibility of contact between the vehicle and the object based on the correlation calculated by the correlation calculating unit. Also, in the event

that there is a possibility of a contact between the vehicle and the object, the safety device operation control unit simultaneously actuates the automatic brake unit and seatbelt device. Thus, the brake unit and the seatbelt device act simultaneously when there is a possibility of contact between the vehicle and the object.

Further, the automatic brake unit is capable of decelerating the vehicle in multiple different deceleration patterns and the seatbelt device is capable of tightening and releasing the seatbelt in multiple different operation patterns. In addition, when the distance between the vehicle and the object enters a predetermined range based on the correlation calculated by the correlation calculating unit, the automatic brake unit causes the vehicle to decelerate to a degree, thereby allowing the occupant to recognize that a braking force has been generated. At the same time, the correlation calculating unit predicts possible contact with either a stationary object or a mobile object traveling in the same direction of the vehicle. A tightening tension of the seatbelt is greater when the correlation calculating unit predicts possible contact with the mobile object than a tightening tension of the seatbelt when the correlation calculating unit predicts possible contact with the stationary object. Further, the seatbelt device alternates between tightening and releasing the seatbelt in response to the signal output by the correlation calculating unit such that a time period of tightening the seatbelt is longer than a time period of releasing the seatbelt.

Thus, a feature of the present invention is that the correlation calculating unit can predict contact with either a stationary object or a mobile object. As a result, the tightening tension of the seatbelt is greater when the correlation calculating unit predicts possible contact with the mobile object than the tightening tension of the

seatbelt when the correlation calculating unit predicts possible contact with the stationary object, which Applicant respectfully contends is not by the cited prior art. Thus, because the driver is alerted in a different manner depending if the object is stationary or mobile, the present invention thereby allows the driver to make appropriate adjustments.

Therefore, Applicant respectfully contends that JP 2002-302026, JP 2000-006759, Midorikawa or the combination thereof do not teach all the features of amended claim 1. Specifically, JP 2002-302026, JP 2000-006759, Midorikawa or the combination thereof do not teach "the correlation calculating unit predicts a possibility of contact with a stationary object or a mobile object in the traveling direction of the vehicle...wherein when there is a possibility of contact with the mobile object, a tightening tension of the seatbelt is set to be greater than a tightening tension which is set when there is a possibility of contact with the stationary object."

JP 2002-302026 discloses a drive supporting device for a vehicle that includes an avoidance operation judging means, a brake driving means to operate the brakes, a control means to control the brake driving means, and a warning means to warn the driver of an impending collision with another vehicle. Referring to paragraphs [0014] through [0017], JP 2002-302026 teaches that the variation of the brake control is divided into three modes. The first mode refers to drawing 2 and determines the distance between two cars and continuously engages the brakes until the vehicle stops. The second mode refers to drawing 3 and determines the distance between two cars and reduces the speed of the vehicle to approximately 70% of the initial vehicle speed. The third mode refers to drawing 4 and

intermittently applies the brakes to gain the driver's attention. JP 2002-302026, however, does not disclose a correlation calculating unit that can predict contact with either a stationary object or a mobile object and adjust the tightening tension of the seatbelt accordingly, as defined in claim 1 of the present invention.

JP 2000-006759 discloses an occupant constraining device for a vehicle that includes a dozy driver detection section and a risk degree judgment section. The dozy detection section detects when the vehicle steers off course and transmits a signal to the risk degree judgment section. The risk degree judgment section drives a motor to fluctuate (tighten and loosen) a seatbelt to warn the occupant of an impending collision. The degree of fluctuation increases as the risk of danger increases. JP 2000-006759, however, does not disclose a correlation calculating unit that can predict contact with either a stationary object or a mobile object and adjust the tightening tension of the seatbelt accordingly, as defined in claim 1 of the present invention.

Midorikawa discloses a seatbelt device with a locking retractor. Referring to column 16, lines 28-35, the seatbelt device includes a collision predictor 403. The collision protector 403 measures the distance to an obstacle and calculates the time until the collision occurs. The collision protector, however, does not disclose a correlation calculating unit that can predict contact with either a stationary object or a mobile object and adjust the tightening tension of the seatbelt accordingly, as defined in claim 1 of the present invention.

Based on the foregoing, it is apparent that JP 2002-302026, JP 2000-006759, Midorikawa or the combination thereof do not teach all the features of claim 1. Thus, reconsideration and withdrawal of the rejections of claim 1 based upon the JP 2002-

302026, JP 2000-006759, and Midorikawa references are hereby requested.

Claims 4, 5, and 8 depend from claim 1, thus, all arguments pertaining to claim 1 are equally applicable to these claims and are herein incorporated by reference.

Claim 9 has been cancelled.

The Examiner rejected claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over the combination of JP 2002-302026 in view of JP 2000-006759 and Midorikawa, U.S. Pat. No. 6,332,629 (hereinafter "Midorikawa ('629)"), as applied to claims 1, 4, 5, 8, and 9 above, and in further view of Midorikawa, GB 2,373,220 (hereinafter "Midorikawa ('220)"). The Examiner's rejection is traversed for the following reason.

Claims 6 and 7 depend from claim 1, thus, all arguments pertaining to claim 1 are equally applicable to these claims and are herein incorporated by reference.

Further, Applicant submits that Midorikawa ('220) does not correct or eliminate the deficiencies of the combination of JP 2002-302026, JP 2000-006759, and Midorikawa ('629) as they relate to claim 1. Midorikawa ('220) discloses an automotive restraint and protection system. More specifically, Midorikawa ('220) discloses an automotive restraint and protection system that includes a seatbelt and a seatbelt driving means, such as a motor, able to protract or retract the seatbelt. The system further includes a warning means that signals the controller of the seatbelt motor if a collision danger status has been predicted. If the collision danger status has been set, the seatbelt is alternately protracted and retracted thus applying periodically increasing and decreasing pressure on the seatbelt wearer, thereby alerting the wearer of an impending collision. Midorikawa ('220), however, does not

teach a correlation calculating unit that can predict contact with either a stationary object or a mobile object and adjust the tightening tension of the seatbelt accordingly, as defined in claim 1 of the present invention. Thus, Midorikawa ('220) does not correct or eliminate the deficiencies of the combination of JP 2002-302026, JP 2000-006759, and Midorikawa ('629) as they relate to claim 1.

The Examiner rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over the combination of JP 2002-302026, JP 2000-006759, and Midorikawa U.S. Pat. No. 6,332,629 as applied to claims 1, 4, 5, 8, and 9 above, and in further view of McFarland U.S. Pat. No. 6,701,849 . The Examiner's rejection is traversed for the following reason.

Claim 10 depends from claim 1, thus, all arguments pertaining to claim 1 are equally applicable to claim 10 and are herein incorporated by reference.

Further, Applicant submits that McFarland does not correct or eliminate the deficiencies of the combination of JP 2002-302026, JP 2000-006759, and Midorikawa, as they relate to claim 1. McFarland discloses an inflator for providing inflation fluid for inflating a vehicle protection device. McFarland, however, does not teach a correlation calculating unit that can predict contact with either a stationary object or a mobile object and adjust the tightening tension of the seatbelt accordingly, as defined in claim 1 of the present invention. Thus, McFarland does not correct or eliminate the deficiencies of the combination of JP 2002-302026, JP 2000-006759, and Midorikawa, as they relate to claim 1.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is

invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. SHG-16197.

Respectfully submitted,

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